

55. Suppose that a mass is attached to a spring and that an external force of the form $F_0 \cos(\gamma t)$ is acting on the system. At time 0, the spring is released from the equilibrium position.
- (a) Find the function $x(t)$ which describes the subsequent motion of the mass.
 - (b) Sketch x for several characteristic cases. When does resonance occur?
56. Work on Problems 3–6 and 13 of Section 4.2.1 in the textbook.
57. Work on Problems 17–19 of Section 4.2.2 in the textbook.
58. Work on Problems 33–36 of Section 4.2.3 in the textbook.
59. Work on Problems 1–3 of Section 4.3 in the textbook.
60. Work on Problems 71–77 of Section 5.1 in the textbook.